

UNITED STATES MARINE CORPS  
Basic Officer Course  
The Basic School  
Marine Corps Combat Development Command  
Quantico, Virginia 22134-5019

B2109

## M203 GRENADE LAUNCHER

### Student Handout

1. **General data.** The M203 40mm grenade launcher, is a light weight, single shot, breech loaded, pump action (sliding barrel), shoulder-fired weapon attached to the M16A2 rifle. It is carried by each of the three fireteam leaders in a rifle platoon's three squads.

a.	<u>Weapon description</u>	<u>U.S common</u>	<u>Metric</u>
	Length of barrel	12 in	30cm
	Weight (unloaded)	3 lbs	1.35kg
	Weight (loaded) (M16A2 and M203)	11.12 lbs	5.35kg
b.	<u>Operational characteristics</u>		
	Maximum effective range (Area tgt).....		350m
	Maximum effective range (Point tgt).....		150m
	Maximum effective range (Leafsight).....		250m
	Maximum effective range .....		400m

2. **Capabilities and limitations**

- |     |   |
|-----|---|
| a.  | <u>Capabilities</u>   |
| (1) | Bridge the gap between hand grenades and indirect fire assets.                        |
| (2) | Point fire on caves, bunkers and windows.   |
| (3) | Limited antiarmor capability.   |
| (4) | Fireteam/squad can cover own dead space.  |
| (5) | Squad leader's hip pocket fire support.   |
| b.  | <u>Limitations</u>  |
| (1) | Clear trajectory needed.  |
| (2) | Slow rate of fire.  |
| (3) | Sights vulnerable to damage.  |
| (4) | Targets can be engaged no closer than 130 meters in peacetime or 31 meters in combat. |

3. **Ammunition**

a. General. All M203 ammunition is "fixed". By fixed, we mean that the ammunition has two major assemblies, projectile and cartridge case, and both are issued "fixed" together in one round. Because the characteristics of the different types of ammunition vary greatly, they will be discussed separately.

b. Fuze. The fuzes for the High Explosive Dual Purpose (HEDP) and practice rounds are impact detonated. It is armed by spin and set back action and must travel 14-28 meters from the muzzle before being armed. Once the fuze is armed it is very sensitive and care must be taken so that the round has a clear trajectory to the target.

c. Practice. The practice round is used for training. It can be identified by its blue tip. The round detonates on impact, dispersing a yellow or orange puff of dye. The same fuze used with the HE round is used with the practice round.

d. Star parachute. The star parachute round is identified by the writing on the side and by a raised letter on its tip. The raised letter indicates the color of the round. The round will burn for 40 seconds at 45,000 candle power and is available in white (W), red (R), and green (G). The round is used for signaling and illumination.

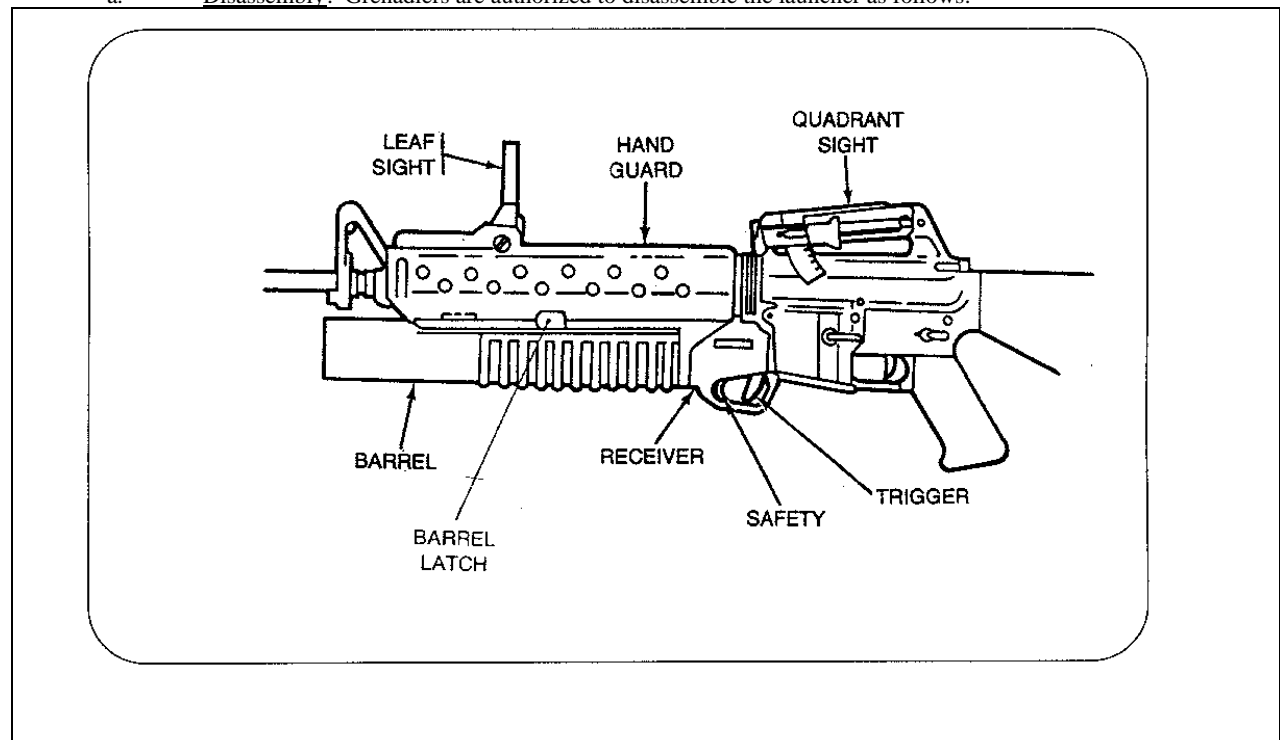
e. Tactical CS grenade. The tactical CS grenade can be easily recognized by its gray nose and red stripe. It contains six evenly spaced gaps in the extraction rim of the cartridge case for ease of identification during hours of darkness. It is used primarily for riot control and civil disturbances. Its maximum range is 400 meters. It will burn and release CS for 25 seconds on impact.

f. High explosive dual purpose (HEDP). The HEDP round can be identified by an olive drab casing, gold skirt and gold tip and during periods of reduced visibility by three evenly spaced indentations on the tip. Upon detonation this round has the capability to penetrate two inches of steel plate. The HEDP round is also a casualty producing round with an ECR of five meters.

g. High explosive, star cluster, multiprojectile, smoke parachute rounds can still be found in the inventory and will be used until stocks are exhausted.

#### 4. **Disassembly and Assembly**

a. Disassembly. Grenadiers are authorized to disassemble the launcher as follows:



- (1) Clear the weapon by depressing the barrel latch and sliding the barrel assembly forward. Inspect the breech to ensure that no round is present. Close the barrel assembly and place on safe. The weapon is now in condition 4.
- (2) Loosen the mounting screw and remove the quadrant sight assembly from the sight mount of the M16A1/M16A2 rifle.
- (3) There are two methods for removing the barrel assembly:

(a) Depress the barrel latch and slide the barrel assembly forward. From the muzzle of the M16A2, count back to the fourth hole on the right side of the handguard. Insert one end of a section of cleaning rod into the fourth hole, depress the barrel stop and slide the barrel assembly off the receiver track (See Figure 1).

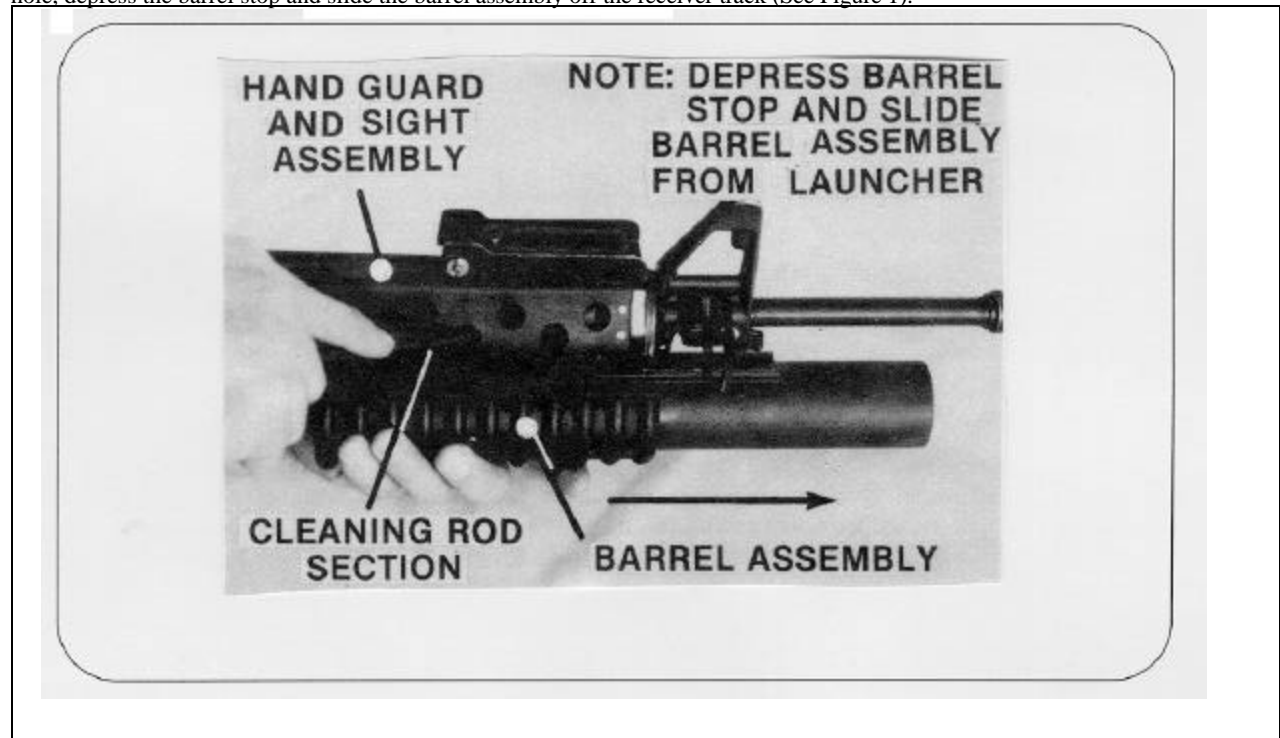


Figure 1. Removing barrel assembly

(b) Remove the handguard and sight assembly. To do this, push down on the slip ring of the M16A2, pulling down and out on the base of the slip ring. Depress the barrel latch and slide the barrel assembly forward. Then depress the barrel stop and slide the barrel assembly from the receiver track. (See Figure 2).

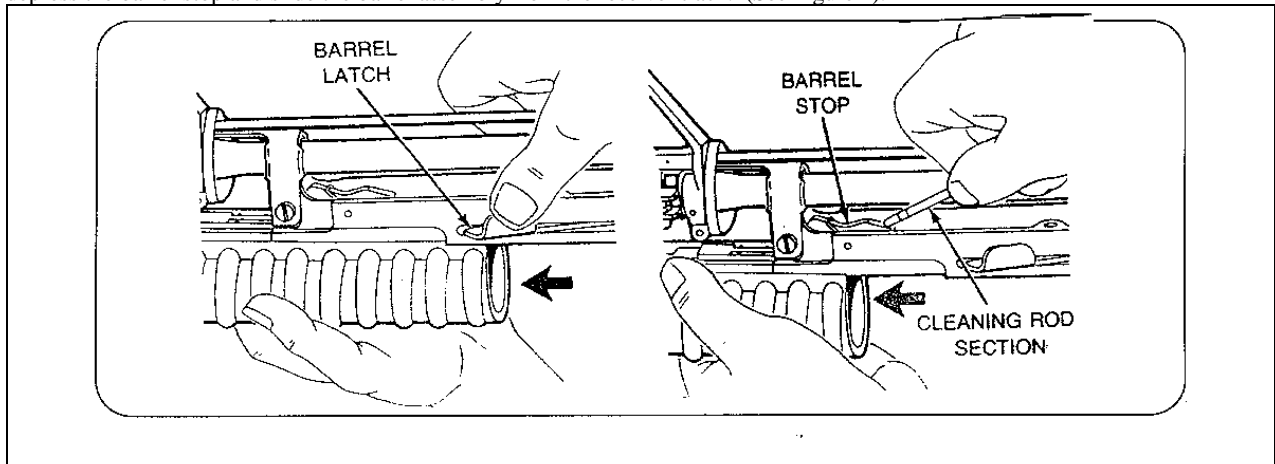


Figure 2. Removing Barrel assembly

- b. Assembly. Assembly of the grenade launcher is the reverse of disassembly.
  - (1) Slide the barrel assembly onto the receiver until the barrel stop engages.
  - (2) Install the quadrant sight bracket assembly and quadrant sight assembly clamp to the sight mount of the M16A1/M16A2 rifle, then tighten the mounting. When reinstalling the quadrant sight, slide it fully forward on the sight mount.
  - (3) Replace the handguard and sight assembly (if removed in disassembly) by pushing down on the slip ring of the M16A2. At the same time align the forward portion of the handguard and sight assembly with the base of the front sight on the M16A2. Push the rear of the handguard and sight assembly onto the M16A2 barrel and release the slip ring, locking the handguard and sight assembly onto the M16A2 rifle.
- c. Functional check. Conduct a function check after reassembly of the weapon. (See Figure 3).

Figure 3. Functional checks

5. **Cycle of functioning**

- a. Unlocking. Unlocking is accomplished by depressing the barrel release latch and sliding the barrel assembly forward.
- b. Cocking
  - (1) The barrel latch, when depressed, unlocks the barrel assembly so that it can be moved forward along the receiver assembly.
  - (2) As the barrel assembly extension, which is interlocked with the cocking lever, moves forward, the cocking lever is forced downward which, in turn, forces the spring-loaded firing pin rearward.
  - (3) The spring-loaded follower moves forward with the barrel extension. As the barrel assembly continues its forward movement the barrel extension disengages from the cocking lever, and the follower holds the cocking lever in the down position.
  - (4) When the barrel assembly is moved rearward the follower is also forced to the rear. The cocking lever again engages the barrel extension and the firing pin moves slightly forward and engages the primary trigger sear. The weapon is then cocked.
- c. Extracting. Extracting and cocking take place at the same time. As the barrel assembly is opened, a spring-loaded extractor keeps the spent cartridge seated against the receiver until the barrel is clear of the cartridge case.
- d. Ejecting. Ejecting is accomplished by a spring-loaded ejector pushing the expended cartridge case away from the face of the receiver assembly when the barrel assembly has cleared the cartridge case.

e. Feeding. When the barrel assembly is in the open position, the cartridge is inserted into the breech end of the barrel.

f. Chambering. Chambering takes place during the closing of the barrel assembly. As the breech end of the barrel assembly closes, the barrel latch becomes engaged to the barrel assembly and the cocking lever engages the barrel extension so that it cannot be moved forward along the receiver assembly.

g. Locking. Locking is accomplished by sliding the barrel assembly toward the grenadier until the barrel release latch engages in its notch in the barrel assembly, thereby locking the barrel assembly to the receiver assembly.

h. Firing. As the trigger is pulled rearward, the primary trigger sear is disengaged from the bottom surface of the firing pin, releasing the spring-driven firing pin and causing it to be forced against the primer of the cartridge.

## 6. Sights and operation

a. Sighting equipment. The M203 has two sets of sights - a quadrant sight and a battlesight (sight leaf assembly).

(1) Quadrant sight. The quadrant sight assembly mounts on the left side of the carrying handle of the M16A1/M16A2 rifle.

(a) Quadrant sight arm. The quadrant sight arm serves a dual purpose: it mounts the sight aperture arm (which holds the sight aperture) and the sight post arm (which holds the front sight post). This permits the sight to pivot on the range quadrant to the desired range setting. The range quadrant is graduated in 25-meter increments from 50 to 400 meters. To move the quadrant sight arm along the range quadrant, move the sight latch rearward. This rearward pressure unlocks the quadrant sight so that the desired range number can be centered in the window of the quadrant sight arm. To lock the sight in position, release the sight latch (See Figure 4).

(b) Front sight post. The sight post can be used to make minor adjustments in elevation when zeroing the launcher. For elevation adjustments, turn the elevation adjustment screw on the sight post clockwise to decrease elevation and counterclockwise to increase elevation. One full turn on the elevation adjustment screw will move the impact of the projectile 5 meters at a range of 200 meters (See Figure 4).



Figure 4. Quadrant sight

(c) Rear sight aperture. The rear sight aperture can be adjusted for minor changes in deflection when zeroing the launcher. For windage adjustment, press the rear sight retainer and move the aperture away from the barrel to move the impact to the left. One notch on the rear aperture will move the impact of the projectile 1 1/2 meters at a range of 200 meters.

(2) Sight leaf assembly (Battlesight). The sight leaf is a folding, adjustable open ladder design that permits rapid firing without sight manipulation. The sight leaf uses the front sight post of the M16A2 rifle as the front aiming post.

(a) Sight leaf base. The sight leaf base is permanently attached to the rifle handguard by two mounting screws. The sight leaf base serves to protect the sight leaf from damage when the leaf is not being used and is in the down position (See Figures 5a and 5b).

(b) Sight leaf mount and sight leaf. The mount is attached to the sight base and is used to raise or lower the sight leaf blade. The sight leaf is graduated in 50 meter increments from 50 to 250 meters.

(c) Elevation adjustment screw and elevation scale. The screw attaches the sight leaf to the sight mount. To make minor adjustments in elevation when zeroing the launcher, the sight leaf can be moved up or down by loosening the screw. Turning the windage screw clockwise adjusts for right windage. One increment equals 1.5 meters at 200 meters range. The rim of a 40mm cartridge case may be used to turn the elevation adjustment screw. Raising the sight leaf increases the range and lowering it decreases the range. The elevation scale consists of five lines spaced equally apart on the sight leaf. The index line is on the left of the sight leaf. One increment will move the impact of the projectile 10 meters in elevation at a range of 200 meters (See Figure 5b).

Figure 5a. Leaf sight

Figure 5b. Leaf Sight

(3) **Zeroing.** Select a target at 200 meters (660 ft) and fire a round. If the round does not fall within 5 meters (17 ft) of target, zero the weapon as follows. (See Figure 6)

- (a) Adjust sight for more or less elevation.
- (b) Adjust windage for each firing.
- (c) After each round is fired, adjust until three consecutive rounds land within 5 meters (17 ft)

of aiming point.

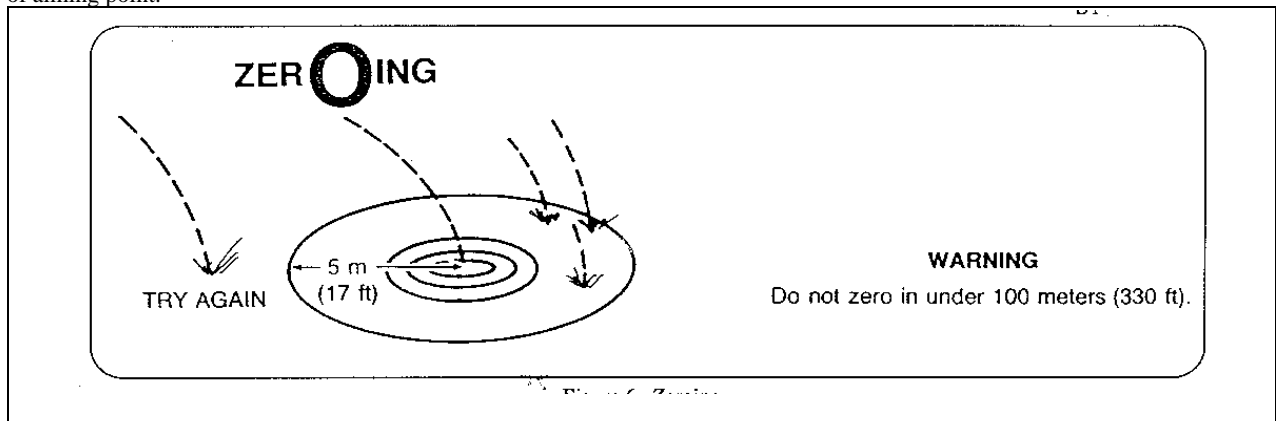


Figure 6. Zeroing



b. The following are the weapons condition codes for the M203:

- (1) Round in chamber, barrel closed, safety on.
- (2) N/A
- (3) N/A
- (4) No round in chamber, barrel closed, safety on.

c. Operation. The barrel is opened by depressing the barrel latch and sliding the barrel forward on the receiver. When the barrel is pulled rearward, the barrel latch locks the barrel and receiver together.

(1) Safety. Keep the muzzle down range and clear of all friendlies. Keep safety in "SAFE" position until ready to fire. (See Figure 7.)

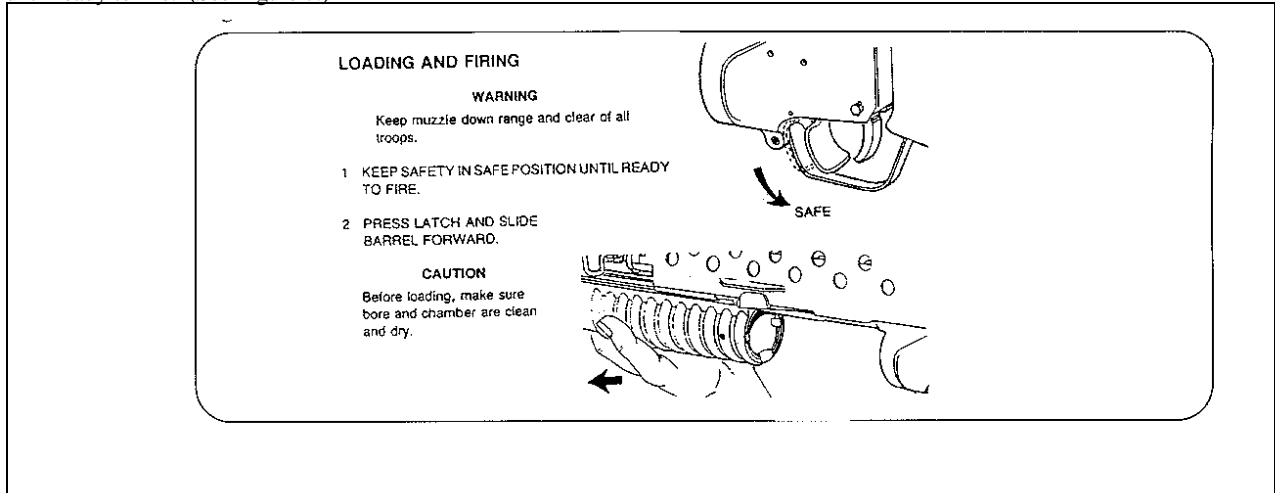


Figure 7. Safety

(2) Loading. Insert ammunition into chamber, slide barrel closed until it locks. Make sure you have the right ammunition. (See Figure 8.)

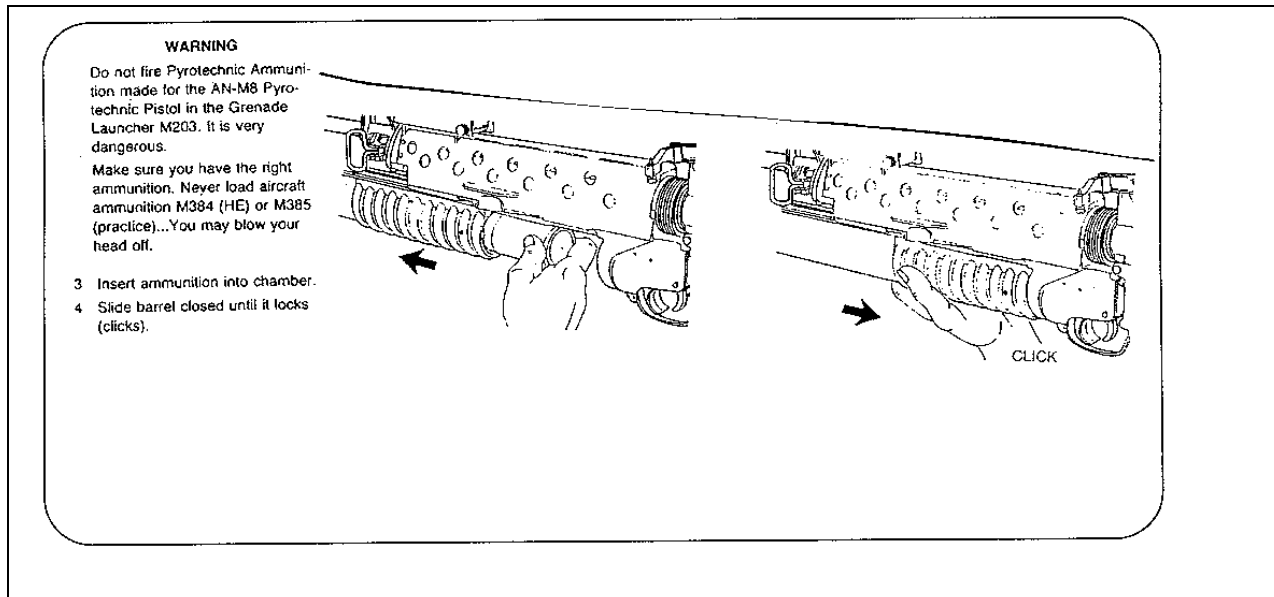


Figure 8. Loading

(3) **Firing.** Be sure there are no obstacles (sling, branches, etc.) in line of fire. Determine target distance and select range. Move safety to "FIRE" position and aim in and squeeze the trigger to fire. (See Figure 9.)

Figure 9. Firing

(4) Unloading. Press the latch and move barrel forward. The casing automatically extracts and ejects. Stuck casings need a little help by tapping with cleaning rod. (See Figure 10.)

Figure 10. Unloading

(5) Firing positions. (See Figure 11.)

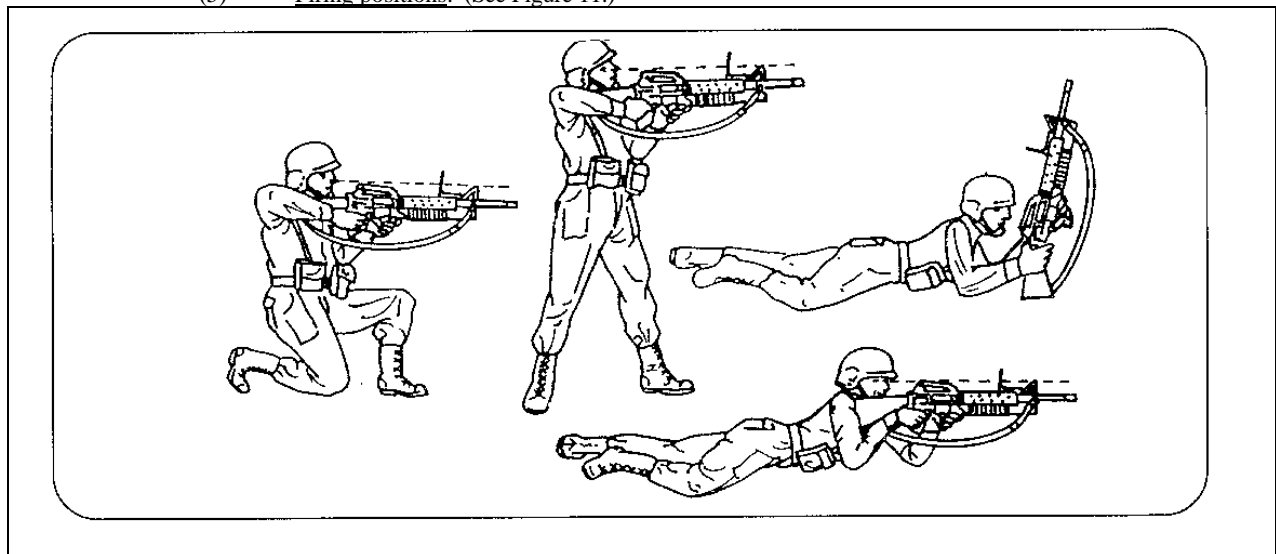


Figure 11. Firing positions

7. **Immediate action.** Immediate action is the prompt action taken by the grenadier to reduce a stoppage. If the launcher fails to fire, assume a hangfire and proceed as follows:

- a. Shout "MISFIRE", keep the weapon trained on the target and all troops clear of the muzzle.

WARNING: Before attempting to remove the round from the grenade launcher, Marines not required for the operation must be cleared from the vicinity.

- b. Wait 30 seconds from the time of failure before opening the breech for unloading procedures.
- c. Exercise extreme caution during unloading procedures; where circumstances permit, either catch the ejected round or reduce the distance of free fall to the ground.
- d. After the round has been removed from the receiver, determine whether the round or the firing mechanism is defective. Examine the primer to see if it has been dented. If the primer has not been dented, the firing mechanism is at fault; the round may be reloaded and fired after the cause of the failure to fire has been corrected.
- e. If the primer has been dented, keep the round separate from other ammunition until it can be properly disposed.

8. **Care and cleaning**

- a. Bore. Clean with thong, bore brush and CLP.
- b. Receiver. A toothbrush is used to clean the surfaces.
- c. Apply a light coat of CLP to all metal surfaces. Do not put CLP in firing pin hole when coating the face of the receiver.
- d. Make sure sights are folded when not in use.
- e. Inspection. Look for:
  - (1) Cracks in barrel
  - (2) Dirt in firing pin hole and face of receiver
  - (3) Breakage and/or presence of dirt on sights

9. **Constructing Field-Expedient Firing Aids for an M203**

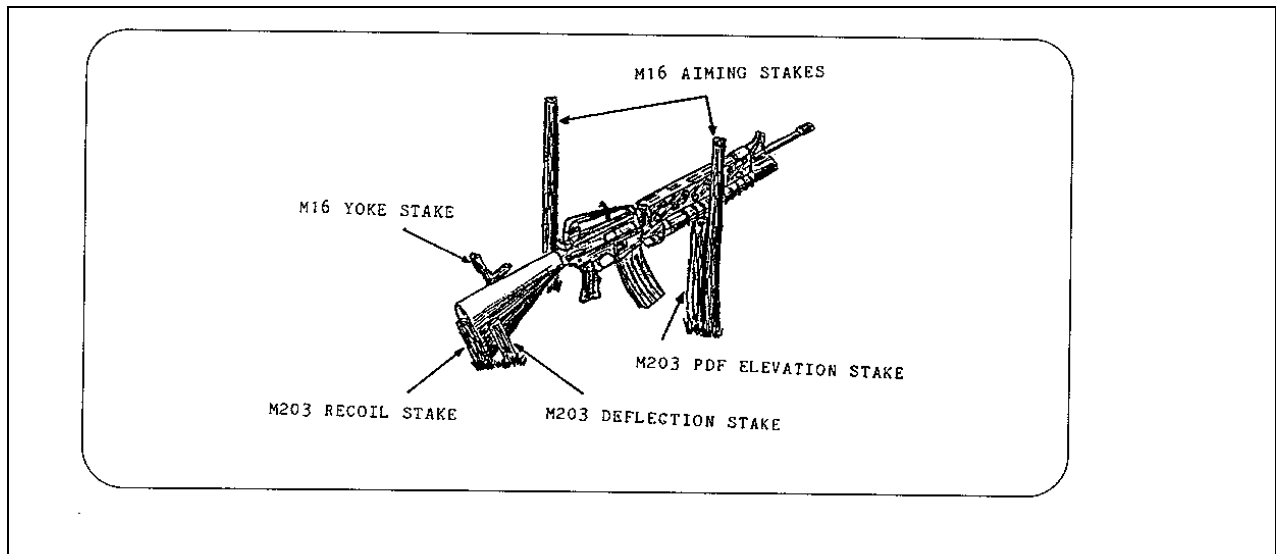


Figure 12. Fire Team Leader Stakes

- a. The fire team leader will emplace both yoke and sector of fire stakes to be utilized in firing his rifle. He will emplace additional stakes when assigned a PDF for his grenade launcher.
- b. When assigned a PDF, a recoil stake or sandbag is placed to the rear of the butt plate.
- c. A deflection stake will be positioned adjacent to the recoil stake to ensure proper lateral deflection.
- d. An elevation stake will be positioned adjacent to one of the sector stakes to ensure proper direction and elevation. The sector stake also aids in maintaining proper deflection.

#### 10. Employment

- a. **Offense.** The team leader/grenadier employs the grenade launcher in the offense to destroy groups of enemy personnel and to provide close fire support in the assault in conjunction with and to supplement, other supporting fires.

(1) The fire team leader/grenadier personally selects targets and delivers the fires of the grenade launcher during the attack. Suitable targets for the M203 are enemy automatic rifle positions, machine gun positions, and other crew-served weapons within the fire team's sector.

(2) During the assault, the fire team leader/grenadier may employ his rifle until suitable targets appear or until he has time to reload the M203.

b. **Defense.** In the defense the fire team leader/grenadier's firing position should enable him to control his fire team and deliver grenade launcher fires over the entire fire team's sector of fire. Primary and supplementary positions are prepared which provide maximum cover and concealment consistent with the assigned mission. Extreme care must be taken to ensure that fields of fire are cleared of obstructions which might cause premature detonation of the projectile. As the enemy approaches the defensive position, he is subjected to an ever-increasing volume of fire. Initially, the fire team leader/grenadier should use the rifle portion of the weapon. As the enemy gets nearer to friendly positions, he should use the grenade launcher. He will fire on enemy automatic weapons and enemy troops who are in defilade. This will silence an enemy base of fire and cause enemy troops to leave covered positions so that the automatic riflemen can engage them.

11. **Summary.** As the squad leader's most immediate source of indirect fire, the M203 is a useful complement to the SAW. An enemy can quickly be placed in that dilemma of not being able to move without jeopardizing his safety. The M203 also gives the squad a means of reaching an enemy that has otherwise been able to protect himself from the direct fires of the squad. Every Marine should know the M203 as well as he or she knows the M16A2.

## 12. References

- a. TM 9-1010-221-10
- b. FMFM 6-5

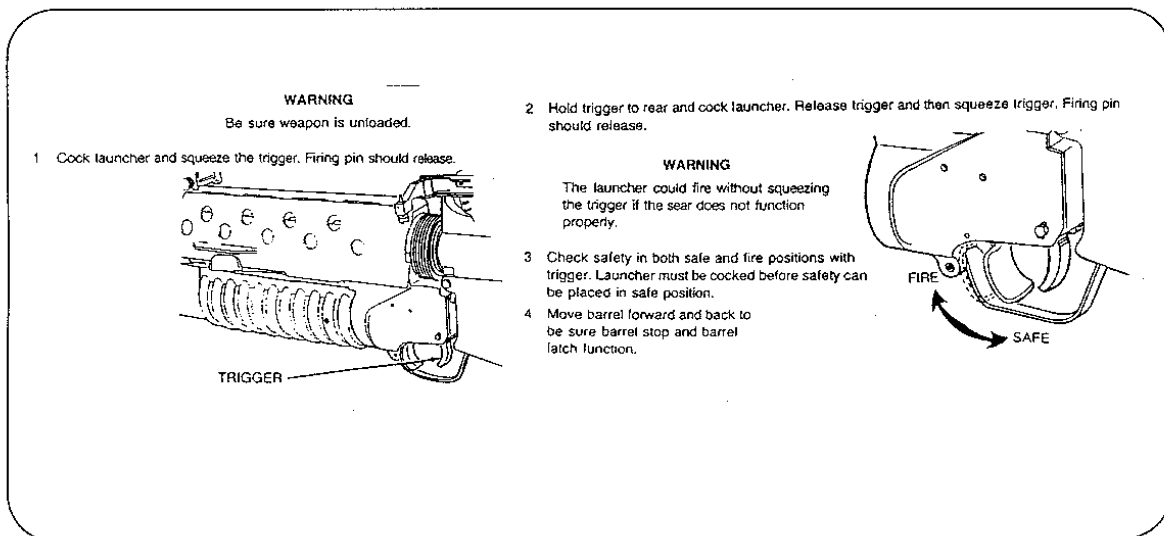
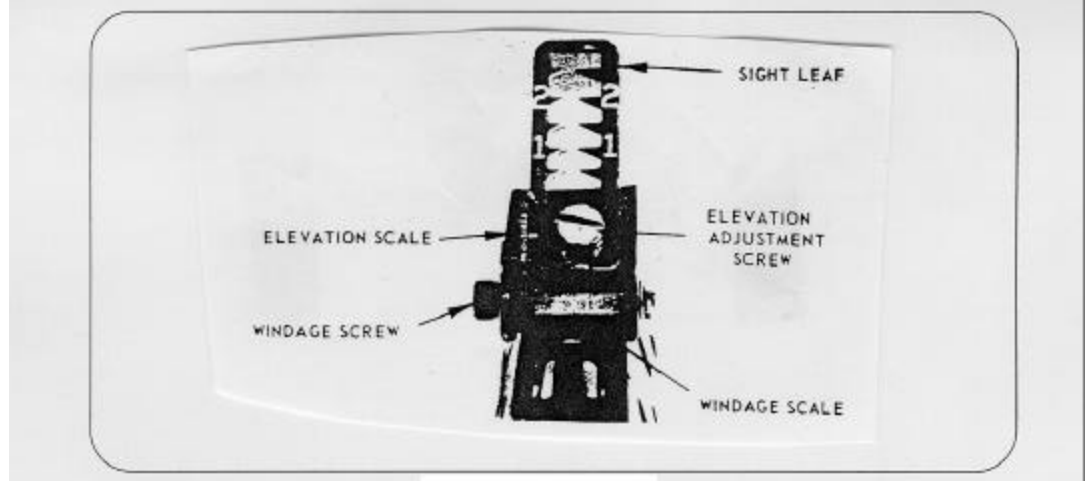
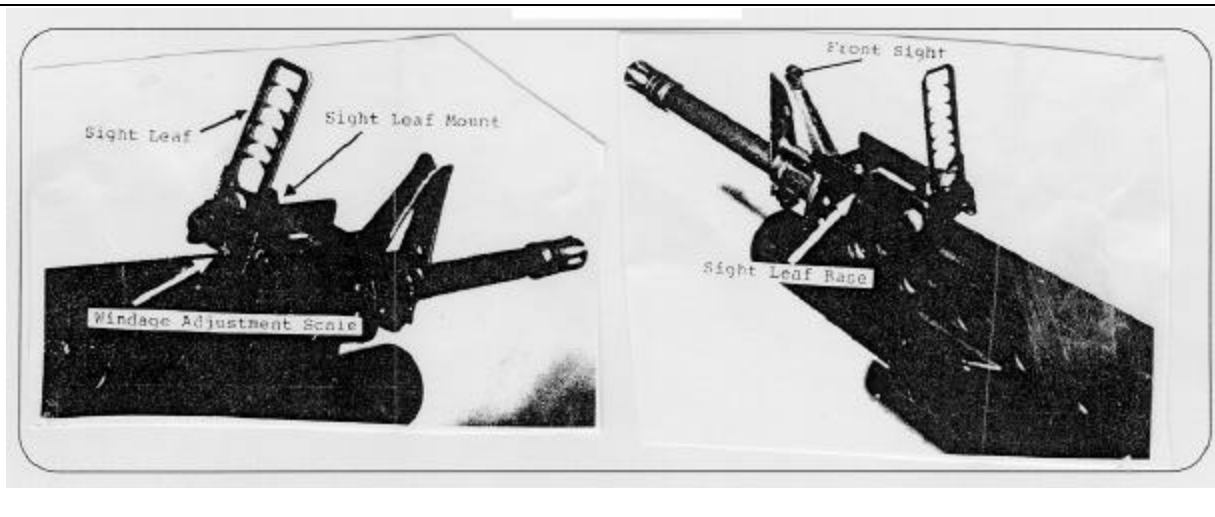
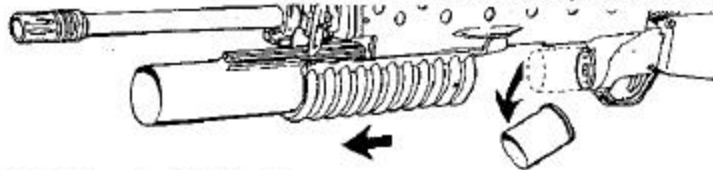


Figure 2 Functional checks

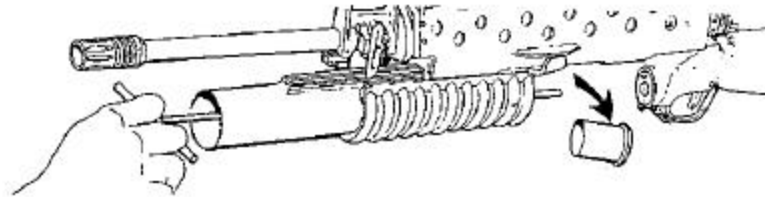




- 1 Press the latch and move barrel forward. The casing automatically extracts and ejects.



- 2 Stuck casings need a little help. Remove by tapping with rifle cleaning rod.



#### WARNING

Be sure there are no obstacles (sling, branches, etc) in line of fire.

- 5 Determine target distance and select range.
- 6 Move safety to fire position.
- 7 Aim and squeeze the trigger to fire.

#### NOTE

Practice breath control as you do when firing the rifle.

